



CARLISLE ENERGY TASK FORCE

Town of Carlisle, Massachusetts, MA 01741

Carlisle is a 'Green Community' of Massachusetts

MINUTES OF MEETING: 5th June 2019 at 7.00pm Town Hall

Present: Debbie Bentley, Basu Sarkar, Bob Zogg, Bil Risso, Dan Cook

Absent: Helen Young, Bob Clarke

Other Attendees: Jonathan DeKock, Ray Moroney.

Bob Zogg called the meeting to order at 7.10pm.

Minutes for May's meeting was approved as amended unanimously.

Current Business

		Discussion	Action
1		Green Communities Grant Projects	
	A	De Strat Fans: Contract has been awarded to installer and scheduling the work	BR
	B	Work to Spalding Building. GC Work has been completed.	
	C	Town Hall 100% complete. Waiting for the invoice. The work is linked with the BMS now. I have a photo. We are now able to heat areas in the town hall that were previously under heated.	
	D	EVCS Town Hall Parking This project has progressed little with the ETF project manager is out of town. Debbie Bentley informally asked the new facilities manager if he could handle this project and he declined. Bill Risso mentioned checking with Silvia Willard on Conservation Commission requirements regarding gaining their approval for Eversource connection.	CVR/DB



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2	<p>Municipal Solar</p> <p>A Ameresco provided an updated price quote, due to the expiration of the RFP bid. It is now not as advantageous for the town. Cost of panels has increased. Steel tariffs may have affected the cost of the structure.</p> <p>B Carlisle will solicit a new round of bids.</p> <p>C Transfer station has been omitted from the new RFP due to the unknown location of the landfill that was closed in 1972.</p> <p>New Scheme omits the Bus Parking zone due to the cost of the connection by Eversource, and school related logistics. Parking Spaces need to stay the same number. Contractor has to be selected by the end of the year. The Town will finance the interconnect agreement to be run in parallel with the new Bid process. RFP is currently being redrafted, with a launch date of 15th June.</p> <p>Dan Cook to forward possible companies that may be interested in bidding.</p>	DC
3	<p>Presentation to Select Board on 28th May.</p> <p>Bob Zogg commented on this presentation, including comments by the Select Board.</p> <p>A Municipal Energy use is 3% of the town.</p> <p>B BoS were supportive of the ETF work and would like to see more assistance for the committee from the Town Hall. Action item: Bob Zogg, Debbie Bentley and</p> <p>C Dan Cook to propose work split with town staff for Green Communities.</p> <p>D Nathan would like some information on the actual energy cost savings from Green Communities</p> <p>E One potential reply: Include a line item for energy on department budgets. Selectmen would need to request this.</p> <p>F Other possible actions:</p> <ul style="list-style-type: none"> Ask the various town departments to propose how they are going to reduce their annual energy use/ costs. Establish liaison with the facilities managers? Coordinate with Kate Reid /Alan Lewis Renovations of DPW or Police Station- is there an opportunity to improve energy efficiency? New Music Studio at School is planned. Bill has asked to see the drawings. There will be windows. <p>G Luke A would like a summary of additional grant opportunities. Some of these need matching funds/ time.</p>	<p>DB</p> <p>BZ</p> <p>BZ</p>



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4	MEI recording The Town needs to follow up with Green Communities to correct the recording of the School Gas meters on MEI	
5	Green Communities Grant round in 2020. Bill Risso to issue a list of suggested items for GCG 2020. We need to compile a list of contactors for project execution.	BR
6	Electrical and Thermal Energy Storage. Jonathan DeKock gave a short presentation on installing a Tesla Powerwall. Jonathan has installed 3 PW systems in his home. No issues from Electrical inspector. Each PW is very heavy. MA does not allow the batteries to be charged by the utility power if the homeowner has solar PV (as Jonathan does) We should discuss further at another meeting to determine what role, if any, the ETF should play in promoting energy storage. Presentation is attached.	All
7	Heat Smart Update Reminder that this Saturday June 8 th : Heat Pump, Weatherization, and Solar event at CCHS.	BZ
8	Long Term Goals Update: referred to Next meeting	
9	House Hold Waste: Composting has now started at the Transfer Station.	
10	Web Page: we will review this at the next meeting. https://sustainablecarlisle.weebly.com/ Bob Zogg to get feed-back from Town Clerk re hosting.	

Next Meeting 3rd July at 7pm. **Meeting Adjourned** 9.20pm.

Tesla Powerball Energy Storage

Jonathan DeKock

Energy Task Force

June 4, 2019

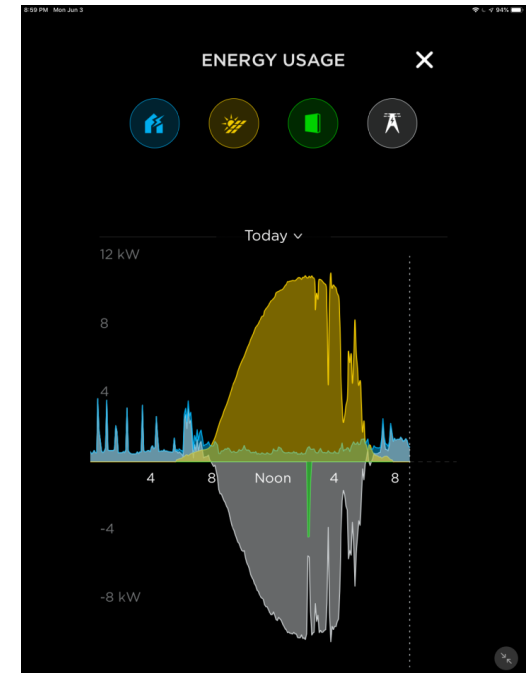
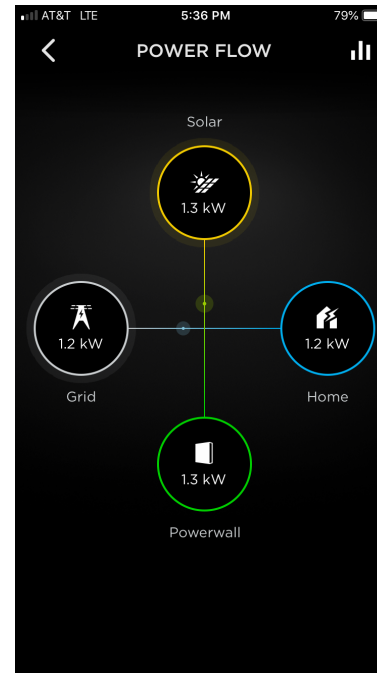


Overview

- Each Powerall contains 13.5 kWh of energy
 - Can deliver 5 kW AC sustained, 7 kW for short times
- Charges itself from Solar Power
 - Required per MA regulations, allows it to qualify for 30% fed tax credit
- Automatic Transfer switch
 - Detects loss of grid power, isolates house from grid
- Grid Forming
 - Allows solar to continue to operate during, recharging battery
- Power options: Backup Only or Self Powered
 - Whole house or specific circuits

Features and Advantages

- Phone App
- Fully Automated
 - Quick switch over
- No Fossil Fuels
- 10 year warranty
- 90% round trip power
- Small form factor
- 70% long term capacity
 - Or better @ 10 years
- Continuous Power
 - Recharged each day
- Price comparable to generator



Difficulties and Downsides

- It is not a Uninterruptible Power Supply (UPS)
 - Power goes down for $\sim 1/10^{\text{th}}$ second (up to 5 seconds)
- Full Battery causes it to generate “bad” power
 - Must shut off solar inverters (frequency adjusted)
 - Real UPS’s don’t like the power either – impact?
- Uses electricity to power itself (~ 1 kWh per day)
- May not recharge enough for long term outage, especially in winter
- Switch to backup can trip some Arc-fault breakers
- Does not have per-circuit control infrastructure
- Occasionally loses its mind, Tesla can fix remotely or reset button